NORTH DAKOTA'S

Nutrient Reduction Strategy

Stakeholder Meeting Summary

December 19, 2013 • Bismarck, ND • 9:30 a.m. - 3:30 p.m.

Background

Nutrient pollution is consistently one of the nation's leading causes of water quality degradation. In North Dakota, many lakes and streams are not fully supporting beneficial uses such as fishing and recreation because of excess nutrients (e.g., nitrogen and phosphorus). On a national level, nutrient management – including the development of state specific water quality numeric standards for nutrients – is a priority for EPA. In response to state and federal interest, the North Dakota Department of Health (NDDoH) is facilitating the development of a state nutrient reduction strategy for North Dakota. To assist in this process, various agency and organization representatives were asked to serve on a planning team. Following two preparatory Planning Team Meetings (November 20, 2012 and April 11, 2013), it was determined that the next step in the strategy development process would be to convene a Stakeholder Meeting. This Stakeholder Meeting was convened to assemble a group of stakeholders to organize and develop the framework for a nutrient reduction strategy for the state.

The Stakeholder Meeting provided the NDDoH the opportunity to build upon the progress made by the Planning Team. The morning session included an overview of national nutrient reduction efforts and similar initiatives within North Dakota. The afternoon breakout sessions involved targeted discussions focused around 1) watershed prioritization, nutrient loading, targets, and nutrient water quality criteria; 2) agriculture and other nonpoint sources; 3) point sources, both municipal and industrial (including storm water); and 4) education and outreach strategies to effectively communicate the outcomes of this process to the public. The content and outcomes of the morning and afternoon sessions are discussed in the following pages.

List of Attendees:

Name	Affiliation
Britt Aasmundsted	North Dakota Department of Agriculture
Ted Alme	Natural Resources Conservation Service
David Archer	USDA Agricultural Research Service
Nicole Armstrong	Manitoba Conservation and Water Stewardship
Al Basile	USEPA Region 8
Abbie Beaudry	University of North Dakota

Name	Affiliation
Mary Berg	NDSU Carrington Research Extension Center
Justin Berg	NDSU Carrington Research Extension Center
Peter Bilstad	City of Fargo
Randy Binegar	North Dakota Water Pollution Control Board
Jodi Bruns	North Dakota State University-Extension
Wayne Carlson	North Dakota Department of Agriculture
Ronnette Chase Alone	North Dakota Tribes, Standing Rock Sioux Tribe
Jim Collins	North Dakota Department of Health, Division of Water Quality
Kelly Cooper	Wild Rice Soil Conservation District
Kari Doan	North Dakota Department of Agriculture
Eric Delzer	North Dakota Department of Agriculture
Keith Demke	City of Bismarck
Mike Ell	North Dakota Department of Health, Division of Water Quality
Scott Elstad	North Dakota Game and Fish Department
Edwin Ericlson	North Dakota Soybean Growers
Kristina Farmer	Environment Canada
Rachel Fast	Morton County Soil Conservation District
Rebecca Fisher	Tetra Tech
Lori Frank	Barnes County Soil Conservation District
Arthur Friesen	Environment Canada
Jeff Frith	Devils Lake Basin Joint Water Resource Board
Ann Fritz	North Dakota Department of Health
Shawn Gaddie	AE2S (Advanced Engineering and Environmental Services, Inc.)
Joel Galloway	US Geological Society
Dave Glatt	North Dakota Department of Health, Environmental Chiefs Office
Julie Goehring	Red River Basin Commission
Daniel Graber	HDR Inc.
Jim Gray	North Dakota Department of Agriculture
Dallas Grossman	North Dakota Department of Health
Todd Hagel	USDA Natural Resources Conservation Service
Tracie Hanson	Wild Rice Soil Conservation District
Jim Hausauer	City of Fargo
Susan Hazelett	Apex Engineering Group
Steve Himmelspnch	City of Mandan Waste Water Treatment Plant
Jeff Hruby	AE2S (Advanced Engineering and Environmental Services, Inc.)
Heather Husband	North Dakota Department of Health
Jessica Johnson	US Fish and Wildlife Service
Nancy Johnson	North Dakota Soybean Growers
-	North Bakota Soybean Growers

Name	Affiliation
Tanya Koch	USDA Natural Resources Conservation Service
Craig Kopp	Cargill Malt
Aaron Larsen	North Dakota Department of Health, Division of Water Quality
Jeff Lewis	Red River Basin Commission
Tom Lilja	North Dakota Corn Growers
Derek Lowstuter	North Dakota Forest Service
Madeline Luke	Dakota Resource Council
Seth Lynne	Apex Engineering Group
Craig Maetzold	American Crystal Sugar
Tod Matelski	City of Grand Forks
Paul Mathiason	Red River Valley Sugarbeet Growers
Tim McNaboe	Ducks Unlimited
Melissa Miller	North Dakota Department of Health
Ken Miller	North Dakota Grazing Lands Coalition
Gary Neshem	North Dakota Grain Growers Association
Joe Nett	North Dakota Department of Health
Kendall Nichols	North Dakota Soybean Council
Ken Norby	City of Pembina
Ken Nysether	Short Elliott Hendrickson Inc.
Paul Olson	North Dakota Department of Health
Paul Overby	Northern Plains Resource Conservation and Development Council
Colleen Peterson	City of Bismarck
Mary Podoll	USDA Natural Resources Conservation Service
David Porsborg	NA
Michael Quamme	Apex Engineering Group
Jeff Reiser	MVTL Laboratories Inc
Scott Ressler	North Dakota Stockman's Association
Scott Rising	North Dakota Soybean Growers
Grace Rixen-Hendford	Southwest Water
Karl Rockeman	North Dakota Department of Health, Division of Water Quality
Fred Ryckman	North Dakota Game and Fish
Greg Sandness	North Dakota Department of Health, Division of Water Quality
Jerry Sautes	North Dakota Department of Agriculture
Scott Schaefer	AE2S (Advanced Engineering and Environmental Services, Inc.)
Reed Schwartzkepf	City of Jameston
Mike Seminary	Houston Engineering, Inc.
Erik Silvola	Great River Energy
Matt Sperry	North Dakota Department of Transportation
Connie Sprynczynatyk	North Dakota League of Cities

Name	Affiliation
Chelsey Thronson	North Dakota Farmer's Union
Andrea Travnicek	Office of the Governor
Don Tucke	City of Grand Forks
Blake Vandervorst	Ducks Unlimited
Sarah Waldron	North Dakota Department of Health, Division of Water Quality
Leo Walker	Dakota Resource Council
Sherwin Wanner	Houston Engineering
Rick Warhurst	Ducks Unlimited
Pete Wax	North Dakota Department of Health, Division of Water Quality
Mark Weber	Red River Valley Sugarbeet Growers
Jason Wirtz	North Dakota Department of Agriculture
Larissa Wolf Necklace	North Dakota Tribes, Standing Rock Sioux Tribe
Jim Ziegler	Minnesota Pollution Control

Welcome and Introductions

Dave Glatt, Chief, Environmental Health Section, NDDoH

Mr. Dave Glatt began the meeting by welcoming everyone to Bismarck and thanking them for taking the time to participate in the day's discussions. He acknowledged that the reason why we were here was because the negative effect of excess nutrients in our waterbodies has become a growing concern. He pointed out that these problems are not the fault of any one sector but at the same time, many source categories are not prepared to address their contribution to these problems.

Mr. Glatt pointed out that the work this group is involved in is extremely important for the state; if North Dakota does not manage its nutrient pollution problem correctly the U.S. Environmental Protection Agency (EPA) may be forced to step in, as has occurred in other states. We know our waterways best and North Dakota is in a better position to analyze and target local nutrient reduction efforts. He also noted that while this group of stakeholders should approach these issues from a regional perspective, it is hard to generate buy-in from locals when all of the results are concentrated in 'faraway" watersheds, including the Red River Basin and Lake Winnipeg.

Mr. Glatt concluded by stating that he was looking forward to the results of the day's proceedings and the input generated by the workgroup sessions. He stressed that the work does not stop after this meeting; it is only the first step in the Strategy development process.

National and State Perspective on Nutrient Pollution

National Perspective on Nutrient Pollution

Mr. Al Basile from EPA Region 8 began the morning session by giving a brief presentation regarding the current state of nutrient pollution from a national perspective. Mr. Basile stated that although nutrients, nitrogen and phosphorus in particular, are essential for aquatic life, too many nutrients can

create some very significant problems for our nation's lakes, streams, and coastal waters. He stated that excessive nutrients can degrade habitat for fish and wildlife, render water bodies unsafe for swimming and other forms of contact recreation, create a public health concern for drinking water supplies, decrease property values, and negatively impact local economies.

Mr. Basile then outlined the status of nutrient pollution nationwide:

- >99,000 river miles threatened or impaired;
- >3 million lake acres threatened/impaired;
- 78% of assessed coastal waters exhibit signs of eutrophication;
- Drinking water violations have increased in recent years because of high levels of nitratenitrogen; and
- The occurrence and severity of nuisance algal blooms are on the rise nationwide.

Mr. Basile discussed that EPA is actively providing states with technical assistance and other resources to help develop water quality criteria for nitrogen and phosphorus, as well as working with states to identify waters impaired by nutrients and develop restoration plans. Mr. Basile said that EPA also has a program that awards grants to states to address nutrient pollution from nonpoint sources, such as agriculture and storm water runoff, and the agency also provides oversight to state permit programs to help reduce the amount of nitrogen and phosphorus discharged to the environment from point sources. Furthermore, EPA provides funding for the construction and upgrade of municipal wastewater treatment plants and works with states to reduce nitrogen oxide emissions from air sources. The agency is also increasing efforts to educate the public and to more effectively collaborate with stakeholders.

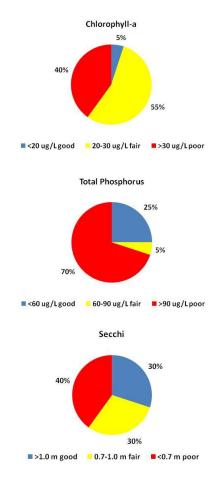
Mr. Basile also emphasized that nutrient pollution is not just a water quality issue as it can impact many people in many different ways. One thing we often forget when speaking about nutrients is that nutrient pollution is also a wildlife habitat issue as many of the things that we do on the land to control nutrient pollution are beneficial to wildlife. Examples here in North Dakota include maintaining native grasslands through programs such as CRP and maintaining and enhancing naturally functioning wetlands. Both grasslands and wetlands help to reduce nutrient pollution and are essential wildlife habitat. And good habitat on the ground means good pheasant and waterfowl hunting, which is good for local economies.

Mr. Basile concluded his presentation by saying that he was encouraged by the turnout of such a diverse group of stakeholders and hopes that everyone can work together to find innovative and cost effective solutions to protect North Dakota's water resources for generations to come. He also noted that EPA believes that it is most effective to work cooperatively with states and stakeholders to achieve these goals.

North Dakota and Regional Perspective

Mr. Mike Ell, NDDoH, began his presentation by introducing himself and giving a brief outline of the Department of Health's role in water quality management. Mr. Ell discussed North Dakota's Water Quality Monitoring and Assessment Programs, Projects, and Studies, including:

- Ambient Water Quality Monitoring Network for Rivers and Streams
- Biological Monitoring and Assessment Program for Rivers and Streams
 - Ecoregion Reference Station Network
- Lake Water Quality Assessment Program
 - Small lakes and reservoirs monitoring
 - Lake Sakakawea
 - Devils Lake
- Impaired Waterbody Monitoring/TMDL Development Program
- Nonpoint Source Pollution Management Program Monitoring
 - Assessment and Planning
 - o Implementation Monitoring
- EPA National Aquatic Resource Survey Collaborations
 - Environmental Monitoring and Assessment
 Project Western Pilot Project 2000
 - National Lakes Assessment 2007 and 2012
 - National River and Streams Survey -2007/2008
 - National Wetland Condition Assessment –
 2011



- Ecological Assessment of Perennial, Wadeable Streams in Red River Basin: North Dakota 2005-2007
- Lake Water Quality Assessments
- Lake and Reservoirs Trophic Status Indicators

Mr. Ell then presented the 2007 National Lake Survey results for the Prairie Pothole Lake Assessment, which covered a small selection of prairie pothole lakes in Iowa, Minnesota, Montana, and North and South Dakota. He explained that a prairie pothole lake is defined as a natural lake, 10 acres or greater in size with a maximum depth of 4.5 m (15 ft.) or less, or where 80% or more of the lake is "littoral" (contains macrophyte growth). Based on these criteria, there were 92 prairie pothole lakes sampled in Iowa, Minnesota, Montana, North Dakota and South Dakota as part of the 2007 National Lake Assessment, which made up 21% of all natural lakes sampled in the National Lake Assessment. Based on

thresholds developed by the Minnesota Pollution Control Agency for shallow natural lakes in Minnesota which were applied to the results from the 92 randomly selected prairie pothole lakes, it was estimated that 40% of prairie pothole lakes are in poor condition for the chlorophyll-a indicator, 70% poor based on total

Impairment	Miles
Total Fecal Coliform/E. coli	5,667.85
Physical Habitat Alterations	2,422.71
Sedimentation/Siltation	1,783.11
Biological Indicators	1,419.86
Oxygen Depletion	453.67

phosphorus, and 40% poor based on Secchi disk transparency.

Mr. Ell then discussed the water quality assessment results which are presented in the Integrated Section 305(b) Water Quality Assessment Report and Section 303(d) List of Impaired Waters Needing TMDLs (referred to as the Integrated Report) The latest version of this report, which is based on biological and chemical monitoring data and completed every two years, was released in 2012. The report includes assessment from 192 lakes and reservoirs, representing 691,769 surface acres. Based on these assessments the main pollutant causing water quality impairments was nutrients, primarily excess phosphorus. The report also found that 51 river and stream segments, representing 1,400 stream miles, were assessed as having biologically impairments, some likely due to excessive nutrients. He presented the Impairment Summary for Rivers and Streams in North Dakota, which is replicated in the table on the right. Mr. Ell then discussed the probabilistic survey results which are based on randomly selected sites that were then categorized by condition class estimates based on "reference sites." He explained that these results provide an unbiased estimate of ecological condition and the extent of stressor (e.g., nutrients) effects. He also discussed the Environmental Monitoring and Assessment Program (EMAP) Western Pilot Project results. The EMAP Western Pilot Project was used to establish baseline data that can be compared with data obtained from future monitoring and sampling activities. Mr. Ell also presented the results of the Red River Basin in North Dakota Perennial Streams Assessment (see the PowerPoint presentation from the Stakeholder Workshop for the results).

Presentation on North Dakota's Draft Nutrient Reduction Strategy

After the break, Mr. Ell updated the group on the past progress and future goals regarding the North Dakota Nutrient Reduction Strategy. He began by discussing nutrient reduction in general, stating that there are many reasons why in the forty years since the Clean Water Act (CWA) has been in place, nutrient criteria have not been set. Nutrients are different that most water contaminants, you cannot easily set a one size fits all threshold for nutrients, as you can with heavy metals or other toxins. Furthermore, each waterbody has its own unique natural nutrient concentrations, which are predicated on a multitude of existing conditions including inflow, outflow, and soil characteristics. Given these difficulties, there are ways to developed defensible nutrient criteria that are based on local conditions and sound science, which is what we hope to accomplish with this strategy.

Mr. Ell discussed the Nutrient Criteria Development Plan, which was released in May of 2007 and describes the anticipated conceptual approach for developing nutrient water quality criteria. The plan specifically focuses on lotic systems (i.e., small to large wadeable and non-wadeable streams and rivers) and lentic systems (i.e., lakes and reservoirs). The plan is intended to provide clear and meaningful guidance for the development of nutrient criteria within North Dakota. The report does not represent a binding commitment, and modification of the plan will likely be needed as new information becomes available, unanticipated issues arise, or if changes are recommended from the nutrient criteria workgroup which was developed as part of this process.

Following the release of the Nutrient Criteria Development Plan and the Stoner Memo, initial discussions began on developing a state nutrient reduction strategy in late 2011. In 2012 the Planning Team was formed and North Dakota began receiving EPA contractor assistance. Through this contractor

assistance and NDDoH's initiative, a Nutrient Reduction Strategy fact sheet was developed, the Planning Team met twice, and the outline of the Strategy was developed. Today we are seeking input from a broad group of stakeholders with an interest and stake in the nutrient problem and reduction strategies which will be developed in the state. He explained that over the next few months the workgroups (established at this meeting) will continue to meet, as needed, to develop the elements of the strategy they are tasked with. The Workgroup Meetings and their Strategy text should be ready for release to the broad stakeholder group by this coming summer.

Mr. Ell described that the next step will be for the Health Department to put it all together. The NDDoH will be tasked with writing the Strategy and integrating the workgroup products into the elements of the strategy. Over the summer, the Planning Team will review and provide input into the Strategy so that the first draft will be ready for dissemination in the fall of 2014. Once the draft Nutrient Reduction Strategy is complete, we would ideally hold another Stakeholder Workshop to gain further input from this group.

Goals of the Afternoon Breakout Sessions

The meeting facilitator, Ms. Jodi Bruns (North Dakota State University-Extension), spoke briefly to the group about the logistics of the afternoon workgroup sessions. Each work group represented a different issue area or source sector, and was tasked with answering why that sector needed to address nutrient pollution and how they would best accomplish that goal. Then they identified the elements and considerations that must be addressed by that sector, as well as any sector-specific roadblocks that might hamper the strategy development process. Each work-group breakout session had four large sheets of paper – one in each corner of the room titled: *Why?*, *How?*, *Elements/Considerations?*, and *Roadblocks?* Each Workgroup was divided into four groups so they could rotate from poster-board to poster-board, adding their thoughts onto the piece of paper. Ms. Bruns explained that the goal of these sessions was for each Workgroup to provide specific input to guide the Strategy development process. Utilizing poster-boards and allowing each individual to provide their thoughts helped to facilitate input from all meeting participants. At the end of each workgroup breakout session, participants voted on what they thought were the highest priorities among those items identified on the poster boards.

Sector Workgroup Breakout Sessions

Technical Workgroup: Nutrient Criteria Development, Prioritization, Loads, and Targets

Mike Ell facilitated the joint Prioritization and Nutrient Criteria Development Technical Workgroup Session. Mr. Ell began the workgroup breakout by describing the logic for combining the two workgroups for the stakeholder meeting. Since many of the same people expressed an interest in both technical workgroups and since both meeting would have occurred at the same time, Mike said it made sense to hold both technical workgroup meetings concurrently. Mike said that after this initial joint workgroup meeting, then the two technical workgroups would meet independently. People in attendance were then asked to divide into one of 4 groups. Each of the four groups were then asked to go to one of the sheets of paper and to begin to address each heading on the paper with respect to the

"Prioritization, Targets and Loading" workgroup topic. After each of the workgroups rotate through each of the pieces of paper, and then Mike said they will be asked to address the "Nutrient Criteria" workgroup topic.

Prioritization

The following tables present the highest rated items from the Prioritization Workgroup discussion and participant voting.

Why?	count
Cost effectiveness (resources directed more efficiently)	4
Achievable watersheds	13
Most "bang for the buck" (addressing fisheries and wildlife and public health and recreation, instead of just one)	17

How?	count
Keep it simple	4
Ranking systems - which ones do and do not meet standards (rank sources and consider low hanging fruit)	8
Beneficial water uses (to protect)	9
Prioritize by achievable results and restorability	16

Elements and Considerations	count
Data - we need it and we need people to get it	4
Point to non-point ratios and loading	4
Understandable, well communicated to the public	4
Watershed size (what scale?)	5
\$\$/return on investment	5
Social significance and acceptance	8
Improvement potential/make a difference?	10

Roadblocks	count
Differing priorities - establishing process	6
Enforcement	6
Economic impacts (get the \$ to do this)	7
Political boundaries (decision making with multiple groups involved)	10
Stakeholder buy-in (lots of stakeholders, and lots of opinions)	11

Criteria Development

The following tables present the highest rated items from the Criteria Development Workgroup discussion.

Why?	count
Defines goal	5
Basis for strategy	6
Protect downstream interests	7
Protect our water resources	11

How?	count
Gather data, modeling	7
Look at naturally occurring vs. inputs	
Develop understanding of desired endpoint	11

Elements and Considerations	count
Consider ecoregions (vs. state wide criteria)	4
Scientifically supported	11
Achievable levels/realistic	15

Roadblocks	count
Political opposition	4
Differing opinions on values depending on stakeholder	6
Supporting data collection and interpretation	7
Everything on the Prioritization "Roadblocks" chart	8
Variability in watersheds and waterbodies	10

Sector Workgroup: Agriculture and Other Nonpoint Sources

Ms. Bruns explained to the participants that they would have an opportunity to write their ideas on the various topic boards placed around the room. They were then asked to move to one of the four poster boards explaining that they would have an opportunity to work at each station. They would have 10 minutes at each station. When their time was up they would be asked to rotate to the next poster.

The following tables present the highest rated items from the Agricultural and Nonpoint Sources Sector Workgroup discussion.

Why?	count
Do we have a choice	4
Quality of life	4

Sustainability (long use)	4
Education of all ND residents	4
Be proactive (state/region cooperation)	11
Shows agriculture as good stewards	11
Ensure objective science-based process	14

How?	count
Need to emphasize voluntary approaches	5
Highlight "success stories"	7
State and federal agricultural agencies, and local constituents and NDSU Extension (help	8
organize, get buy-in, representation from all groups)	
Set early goals that are easily attainable	9
Incentive programs - legislative support	12
Education	16

Elements and Considerations	count
BMPs and industry trends	5
Balance plan with increased demand for food	6
Realistically attainable	6
Short and long term goals	6
Lessons learned from other areas (e.g. Lake Erie, Chesapeake Bay, etc.)	7
Regulations and education	7
Precision agriculture	10
Objective/practical implementation	11

Roadblocks	count
Education - denial of existing problems	4
Rural vs. urban	5
Politics	5
Difficulty measuring success	5
Anti-regulation	8
Funding for implementation	10
Economics	12

Sector Workgroup: Municipal and Industrial Point Sources

The organization of the afternoon session was described again, and the group was divided into 4 smaller groups which then split up to address each topic. They moved around the room after spending time

with each topic. After all groups had been through each topic, everyone was given a chance to return to any topic and add any additional thoughts. Then they were allowed to vote for their top items for each topic. Following this, it was opened up for general discussion on where the group felt they should go from there. It was agreed that everyone would like to see some more specifics to respond too, and after seeing that then they would decide when and how to meet again.

The following tables present the highest rated items from the Municipal and Industrial Point Sources Sector Workgroup discussion and participant voting.

Why?	count
Downstream users	4
Quality today is quality for generations	6
Watershed prioritization	9
Protect drinking water	11
Prevention is easier than correction	13
Keep control at local level (keep EPA out)	13

How?	count
Public education and outreach and marketing	4
Develop new treatment, innovative technologies	6
Nutrient recycling for "beneficial" uses	7
Improved erosion and sediment control	9
Funding programs	17
Source control (reduced phosphorous content in products, appropriate application, public education)	22

Elements and Considerations	count
Local government/politics	4
Measurability	5
Is it reasonable? What is reasonable? Who defines reasonable?	7
Waste that is generated from treatment	7
Implementation and prioritization (municipal, industry, watersheds, etc.)	8
Funding and costs (cost/benefit, bang for the buck, most beneficial)	23

Roadblocks	count
Public will	8
Fairness across stakeholders (fairness across jurisdictions)	11
Amount of available data to justify numeric nutrient limits	11
Value - measureable benefits	15

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Workgroup on Education and Outreach

Ms. Melissa Miller, NDDoH, introduced herself and asked for introductions of group. She and Mr. Jim Collins, also from the NDDoH, explained the carousel process for brainstorming as introduced by Ms. Bruns in the morning session. Because of the smaller size of the workgroup (14), it was divided into three sub-groups to brainstorm ideas under each of the four categories. After the groups had finished their work, Mr. Collins and Ms. Miller marked the top three priorities in each category. Mr. Collins then summarized the priorities to ensure they were listed as the group intended. Before adjourning, Ms. Madeline Luke agreed to be the group's spokesperson for the presentation to the full group of stakeholders. Ms. Mary Berg also agreed to be the lead/chair for the Education and Outreach Workgroup. The following tables present the highest ranked items from the Education and Outreach Workgroup discussion and participant voting.

Why?	count
Package information from other groups and share	4
Information to make better farm/business/government decisions	5
Changes come through education	5
Want buy-in from producers, cities, government, etc.	7
Economics - helps producers internalize system externalities (i.e. accounting for the environmental "costs," such as decreased water quality, that are not included in the cost of production because they are economic externalities)	10

How?	count
Develop educational lesson plans for k-12 teachers for water quality/chemistry/geography	4
Road trips/field demonstrations on successes/ impacted areas	4
Financial benefits - incentives	5
Work through entities that have educational programs existing	7

Elements and Considerations	count
Best science - peer reviewed!	5
Defining the target audiences	8
Funding	8

Roadblocks	count
Urban vs. rural (cultural differences in outlook, population, etc.)	4
Resistance to change	5
Economic impact	5

Workgroup Report Out

Each Workgroup selected someone to report on the discussions that occurred during the breakout session. The first group to report out was the Sector Workgroup on Agriculture and Non-point Sources. The workgroup representative, Greg Sandness (ND Dept of Health), began by explaining that the group understands that this Strategy is an opportunity to develop objective and science based plan to address nutrients in North Dakota. It also serves as an opportunity to show that the agricultural industry is interested in being good stewards of the environment, as well as displaying that the state as a whole is being proactive. He also stressed that this sector can benefit from the lessons learned (both good and bad) from the implementation of best management practices in the state and within neighboring areas. Such lessons will provide guidance on strategies that will be effective in reducing nutrients. Concern was also raised about the regulatory approach being used to address agricultural nonpoint sources in other areas (e.g., Chesapeake Bay) and that this approach would not be the best approach for North Dakota. It was stated that the up-front involvement of the agricultural industry in the development of the state strategy was a positive first step. In conclusion, some in the group felt we do need to look at the different approaches being employed for nutrient reduction to see the good and bad aspects, but we still need to develop our own strategy that will be effective and feasible for North Dakota.

He concluded by stating that the largest roadblock the group identified is a lack of substantial funding to support nutrient reduction efforts.

The Municipal and Industrial Point Source Workgroup presented next. Karl Rockeman (ND Dept of Health) began by stating that the group believes that it is better to address the issues caused by excess nutrients in an upfront manner. Many folks said that from their perspective, it will be easier to reduce phosphorus from the sources rather than trying to remove phosphorus from waste water treatment plant influent. This could be done by reducing phosphorus levels in household cleaners, specifically laundry detergents. One interesting outcome he noted was that many more workgroup members prioritized drinking water concerns over wildlife when discussing the "Why?" related to the Strategy. He stated that this may influence how we design our outreach materials. Funding the costs for nutrient reduction was a chief concern of the group.

The representative from the Outreach and Education Workgroup, Madeline Luke (Dakota Resource Council) began by stating that the overall goal of their group was to generate community buy-in, this will be required to get anything done. She mentioned that the group supports piggybacking on already established initiatives so as to not reinvent the wheel. This group also stressed the need to use the best peer reviewed science available. She stated that you can have a diverse set of opinions, but the science is science and is true to the resource.

The Nutrient Criteria Development, Prioritization, Loads, and Targets Workgroup representative Heather Husband stated the group felt that criteria were needed to protect our water resources and their beneficial uses and that prioritization of watersheds for nutrient reduction was the best way to get the

most accomplished with limited funds. She stressed the group felt in developing a prioritization strategy; watersheds should be ranked on restorability and achievable results. She also mentioned that it was important to overcome the potential roadblocks of where watershed boundaries crossed political boundaries. And finally, the group felt that the key to ensuring the state develops the appropriate strategies by: 1) interpreting the scientific data is to determine the appropriate models to use; 2) identifying data gaps; and 3) making sure the endpoint is well understood by all stakeholder groups. It was noted that it was important to have current water quality data and models, though funding to collect and analyze large amounts of data rapidly is often a limiting factor. Finding an acceptable resolution between the needs of current data and available funding is something this workgroup will try to work out moving forward.

Concluding Remarks

Mr. Glatt concluded the meeting by remarking on what a productive and informative meeting they all had experienced. He stated that so many of the topics and considerations discussed at the meeting had not been identified by the Department of Health and would be quite valuable in beginning to write the strategy. Mr. Glatt discussed four items that seemed to be consistent across all of the groups: ensuring adequate funding, maintaining local control, creating a collaborative experience, and using good science and reputable modeling. Mr. Glatt reiterated that the group's work is not done; the Department of Health still requires the assistance, input, and inventive thinking of the Workgroups, and he hopes that everyone will continue to stay involved in this process.